MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 3, 2021/2022

DMH5026– ENGINEERING IN SOCIETY

(Diploma in Electronic Engineering)

8 AUGUST 2022
2.30 p.m – 4.30 p.m
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of **2** pages excluding the cover page with **4** questions.
2. Answer **ALL** questions.
3. Please write all your answers in the answer booklet provided.

QUESTION 1 [25 MARKS]

a) Our survival depends on a healthy and functioning planet and our interactions with nature and all that exist within it matter a great deal. Explain how our needs are disrupting the environment.

[5 marks]

b) Nuclear power stations can produce large amount of energy from small amount of nuclear fuel. Explain the problems with respect to nuclear fuels.

[5 marks]

c) Explain the consequences of major hazard incidents with respect to Health and Safety of workers and public.

[5 marks]

d) List any FIVE disadvantages of using fossil fuels as energy source and recommend any FIVE alternative energy sources.

[10 marks]

QUESTION 2 [25 MARKS]

a) Flixborough disaster in England happened at 1974 is an explosion at a chemical plant killed 28 people and seriously injured another 36 and damaged over 1800 buildings in the surrounding area. An improperly designed bypass line caused the leakage of a 50-ton cyclohexane vapour cloud in seconds and exploded upon contact with an ignition source. Explain, in terms of process safety management, why did this happen.

[5 marks]

b) What is sustainable energy? Identify any TWO sustainable energy sources.

[5 marks]

c) National Policy on the Environment (DASN) has been established for continuous economic, social and cultural progress and enhancement of the quality of life of Malaysians through environmentally sound and sustainable development.

i) What are the objectives of DASN?

ii) Write any four principles listed under DASN to harmonise economic development goals with environmental imperatives.

[7 marks]

d) What does energy awareness mean? Suggest any SIX simple actions that can reduce the energy consumption at home.

[8 marks]

Continued...

QUESTION 3 [25 MARKS]

a) Define the term "Engineering" and list down the FOUR main branches of Engineering.
[6 marks]

b) Intellectual properties are the indicators of science and technology. What is meant by Intellectual Property (IP)? Explain how it can be protected from legal point of view.
[7 marks]

c) A country having an effective rate of industrialization and individual income is known as Developed Country. Malaysia is still under the category of developing countries. Mention any SIX characteristics applicable to developing countries.
[6 marks]

d) The Twelfth Malaysia Plan focuses on the strategic priorities that will transform Malaysia. It is a critical compass for Malaysia during this time of unprecedented COVID-19 pandemic and the global economic uncertainty. Explain the three main development dimensions under the 12th Malaysian plan?
[6 marks]

QUESTION 4 [25 MARKS]

a) Training is one of the most important components within any company's safety management system. List down any THREE benefits of conducting safety and health trainings in companies.
[3 marks]

b) Discuss the safety and health responsibilities of supervisors of any company?
[3 marks]

c) Design for sustainability means developing products with minimal or no environmental impacts. Suggest and explain any FIVE principles for sustainable design.
[5 marks]

d) Cleaner production is the continuous application of an integrated, preventive environment strategy towards processes, products, and services in order to increase overall efficiency and reduce damage and risks for humans and the environment. Discuss any SIX technology options available to achieve cleaner production in factories.
[6 marks]

e) Explain why environmental education is important for all the individuals.
[3 marks]

f) Personal protective equipment, commonly referred to as "PPE", is equipment worn to minimize exposure to hazards that cause serious workplace injuries. Name any FIVE types of such Personal protective equipment.
[5 marks]

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